

# Automatic WaterJet Saw

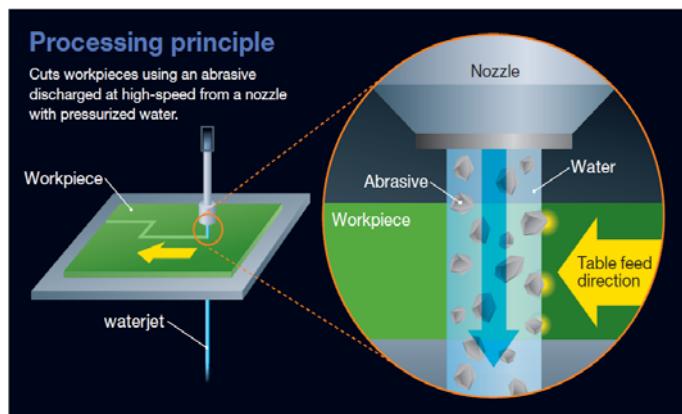
# DAW4110

## Fine non-thermal curvilinear cutting

### Cuts workpieces using an abrasive discharged at high-speed from a nozzle with pressurized water

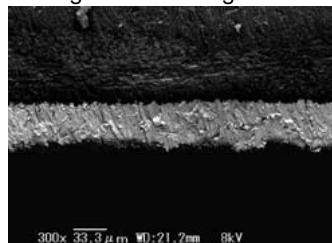
The DAW4110 realizes high-quality precision non-thermal curvilinear cutting by using technology DISCO has independently developed to premix and discharge water and abrasive together in conjunction with workpiece alignment technology from our precision cutting equipment. This waterjet is the world's first waterjet saw that can be used in a clean room.

- Lowers burring and smearing of metal and resin and realizes a high-quality cutting surface
- Suppresses the smearing and delamination of laminating materials
- Positions cutting precisely using auto alignment
- Reduces abrasive scattering thus allowing operation in a clean environment

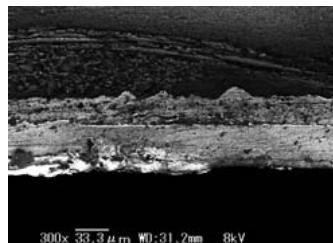


### ■ Processing example 1 (Cutting glass epoxy substrate with copper wiring)

- Supports the separation of multilayer substrates with an insulation layer thickness of less than 100 µm, such as Low-K films.
- Improves yield and contributes to lower cutting costs because burring and smearing are minimized.



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Other cutting process

### ■ Processing example 2(Cutting titanium)

- Capable of cutting materials susceptible to cutting defects caused by processing heat, such as titanium and stainless steel.



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Other cutting process

## Realizes a narrow kerf width and small corner radius

Capable of processing narrow sections and inner corners with an R of 0.3 mm (minimum) due to the 0.3 mm (approximate) kerf width of the waterjet saw.

## Abrasive recycling

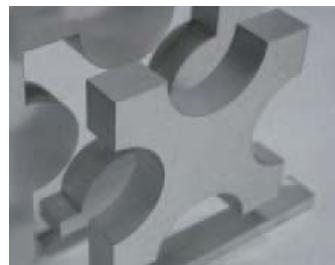
Employs a recycling system to collect and recycle abrasives without drying using a premixing system.

## Cuts workpieces with contour dimensions from input data

Using the automatic tool correction function, the DAW4110 can correct input data, according to measured values for the kerf width, before cutting the workpiece.

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Aluminum curvilinear cutting

## ■Workability target

	Cutting speed	Cutting quality
Superior Workability	Resin materials, metal materials, and laminated resin and metal	Resin materials, metal materials, and laminated resin and metal
Difficult Workability	Materials harder than aluminium	Hard and brittle material such as Si

\* Actual workability depends on the workpiece.

\* The vertical cross-section surface and surface roughness may not be applicable for important workpieces.

\* Partial cuts and the processing of very hard materials is not possible (such as grooving or concave processing)

\* For details, please contact your local sales representative.

## Specifications

Specification	Unit	
Workpiece size	mm	220 x 190 x 5
X-axis	Cutting range	mm 220
	Index positioning accuracy	mm 0.005/425
	Cutting speed	mm/sec 0.1 - 30
Y-axis	Cutting range	mm 190
	Index positioning accuracy	mm 0.005/190
	Cutting speed	mm 0.1 - 30
Z-axis	Max. stroke	mm 103.5
	Repeatability accuracy	mm 0.005
High-pressure	Control pressure	MPa 67
Continuous jet discharge time	min	5
Machine dimensions (WxDxH)	mm	1,000 x 1,830 x 1,800
Machine weight	kg	Approx.1,300
Exterior unit dimensions (WxDxH)	mm	490 x 1,000 x 1,600
Exterior unit weight	kg	Approx.145

## Environmental conditions

- Use clean, oil-free air at a dew point of -15 ° C or less. (Use a residual oil: 0.1ppm. Filtration rating: 0.01 µm/99.5 % or more).
- Keep room temperature fluctuations within  $\pm 1^{\circ}$  C of the set value. (Set value should be between 20 - 25 ° C).
- Keep cutting water and cooling water at the same (within  $\pm 1^{\circ}$  C fluctuations) temperature as the room.
- Use water that has a specific electric conductivity greater than 1µS for cutting.
- The machines should be used in an environment, free from external vibration. Do not install machine near a ventilation opening, heat generation equipment or oil mist generating parts.
- This machine uses water.  
In case of water leakage, please install the machine on the floor with sufficient waterproofing and drainage treatments.
- \* All the pressures are described using gauge pressures.
- \* The above specifications may change due to technical modifications. Please confirm when placing your order.
- \* For further information please contact your local sales representatives